



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/077,730	02/19/2002	Gregory M. Nichols	N.C. 83,180	3168
26384	7590	11/14/2005	EXAMINER	
NAVAL RESEARCH LABORATORY ASSOCIATE COUNSEL (PATENTS) CODE 1008.2 4555 OVERLOOK AVENUE, S.W. WASHINGTON, DC 20375-5320			FILE, ERIN M	
			ART UNIT	PAPER NUMBER
			2634	
DATE MAILED: 11/14/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**Application No. **JK**

10/077,730

Applicant(s)

NICHOLS, GREGORY M.

Examiner

Erin M. File

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-9 is/are allowed.
- 6) ☒ Claim(s) 10, 11, 19, 20 and 23-25 is/are rejected.
- 7) ☒ Claim(s) 12-18, 21 and 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

***Response to Arguments***

1. Applicant's arguments filed 9/30/2005 have been fully considered but they are not persuasive.

Applicant claims Nease reference does not disclose the output of the bandpass filter is converted by an analog to digital converter, the Examiner holds her position that the note on drawing 3, following output of element 120 "to A to D converter" is a sufficient teaching of Analog to Digital conversion.

The examiner admits in earlier office action that Nease fails to disclose the signal first digitized and then used for gain control. The applicant contends that this is not a design choice because of the advantage over traditional analog peak detector, however, this advantage is not given in the specification and therefore cannot be used to overcome design choice. The applicant states that p. 2, lines 29-35 in the specification of the instant application, discloses such an advantage of design choice, however, the examiner does not feel that this passage gives any type of motivation specific to digitization of gain controlled signals prior to providing gain controlled signal.

The applicant further claims that the Patel reference cannot be combined because it pertains to the processing of digital signals as opposed to radar signals. The examiner

Art Unit: 2634

contends that the Patel reference is relied upon for the disclosure of an envelop detector for determination of a peak for gain control.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 10, 11, 19, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nease and in further view of Patel et al.

**Claims 10, 19, 23,** Nease discloses a radio frequency (RF) input (fig. 3, input to 102) input to a variable attenuator (104) which is input to a low noise amplifier (106) which is filtered by a bandpass filter (114). This output is converted by an analog to digital converter to create a digitized output (output 120). Nease further discloses a gain control detector (122) which determines attenuation value and control communicated to the variable attenuator (104). The receiver repeats this step over a plurality of data samples as they are sampled and processed from the receiver. An IF output buffer amplifier (120) buffers the gain controlled signal and sends the signal on for analog to

Art Unit: 2634

digital conversion. Nease fails to disclose a threshold establishing a threshold for detecting the presence of a pulse within the plurality of ADC data samples. However Patel discloses an automatic gain controlled circuit which uses an envelop detector (fig. 1, 21) in combination with a peak amplitude detector (22) which controls the gain control circuitry (23). Because Patel uses the analog, as opposed to the digital, version of the signal, the envelop detector and peak detector can be used to detect a pulse of a determined peak value to control the gain of the gain automatic gain control. The use of such peak amplitude based control signals can reduce unwanted amplifier gain. Because of this advantage in gain control it would be obvious to one skilled in the art at the time of invention to incorporate Patel's gain control approach into Nease's automatic gain control apparatus. Although Nease and Patel fail to disclose the signal first digitized and then used for gain control, it would be obvious to one skilled in the art that the digitizing of the signal before using said signal for gain control is not a significant design choice from digitizing the signal after gain control signals are derived. The applicant fails to disclose an advantage to digitizing the gain controlled signal prior to providing a gain control signal, therefore it would be obvious to one skilled in the art at the time of invention to use the digitized version of the signal for gain control in the automatic gain control circuit in the combined invention of Nease and Patel.

**Claim 11, 20**, inherit the limitations of Claims 10 and 19 respectively, further Nease discloses an intermediate frequency bandpass filter (114), which directly implies the presence of an intermediate frequency signal in the radio frequency input signal.

**Claim 24**, inherits the limitations of Claim 23, Nease further discloses an automatic gain control amplifier (116).

**Claim 25**, inherits the limitations of Claim 23, neither Nease nor Patel et al. disclose a buffer memory implemented in random access memory. The combined references as described in Claim 23 above disclose the claimed invention except for the implementation of a buffer memory implemented in random access memory. It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement a buffer in random access memory since it was known in the art that random access memory is an extremely common way of implementing memory.

***Allowable Subject Matter***

4. Claims 12-18, 21, and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Claims 1-9 are allowed.

Art Unit: 2634

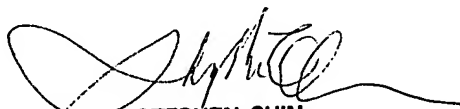
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erin M. File whose telephone number is (571)272-6040. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571)272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Erin M. File



11.09.2005



**STEPHEN CHIN**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**